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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,581	12/27/2001	Steven M. Zuniga	005944/CMP	9175

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APPLIED MATERIALS, INC.
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EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 11/14/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/033,581

Applicant(s)

ZUNIGA ET AL.

Examiner

Anthony Ojini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 and 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's election with partial traverse of **Group I** and cancellation of claims 6,16 in Paper No. 8 are acknowledged. Claims 12-15,17-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

The traversal is on the ground(s) that "Group I and III are related as claims directed to a product that is made and claims directed to a process of making the product" and "Groups II and III, which according to the Examiner are both classified in class 451, subclass 41, are related as claims directed to a process of using an apparatus and process of making an apparatus". This is not found persuasive because **groups I and III** are unrelated because group I and III have different functions such as a carrier head for chemical mechanical polishing of a substrate and a method of making a flexible membrane; and **groups II and III** are unrelated because groups II and III have different modes of operation such as a method of moving a substrate with a carrier head and a method of making a flexible membrane.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the base disclosed in the specification; and wherein the second material is deposited on selected portions of

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the first material to form a pattern must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to because the outer surface (192) of the inner portion (180) and substrate receiving surface (198) as taught in the specification on page 5, lines 2, 4, was not clearly shown in the drawing. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 1,10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In **claim 1,10**, lines 5,6 respectively, the term "***may be***" is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-11, 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchel et al. (6,056,632) in view of Custer et al. (6,627,098).

With respect to claims 1, 2, 10, 11, Mitchel et al. disclose a carrier head (100) comprising a base, and a flexible membrane (134) extending beneath the base to define a chamber (154) and provide a mounting surface against a substrate. Mitchel et al. also disclose the flexible membrane includes multiple sheets of material (see col. 7, lines 30-33).

Mitchel et al. fail to disclose the flexible membrane's mounting surface includes a low adhesive material to which the substrate does not readily adhere.

Custer et al. disclose a carrier heads having a mounting surface (174) that includes a non-stick material (see col. 5, lines 51-57).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Mitchel et al. with a mounting surface that includes a non-stick material in view of Custer et al. so as to protect the flexible membrane during planarizing.

With respect to claims 3, 21, Mitchel et al. fail to disclose the flexible membrane that includes multiple sheets of material wherein a first material is an elastomer and a second material is a polymer; and **wherein** the second material is deposited on the first material.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Mitchel et al. with flexible membrane that includes multiple sheets of material wherein a first material is an elastomer and a second material is a polymer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Mitchel et al. with flexible membrane that include multiple sheets of material **wherein** the second material is deposited on the first material, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

With respect to claims 4, 5, 22, 23, Mitchel et al. fail to disclose the optimum ranges as claimed by the applicant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Mitchel et al. with the optimum ranges as claimed by the applicant, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claims 7, 8, 24, 25, Mitchel et al. fail to disclose the flexible membrane that includes multiple sheets of material wherein the second material is deposited on the first material by gas phase polymerization coating.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Mitchel et al. with flexible membrane that include multiple sheets of material **wherein** the second material is deposited on the first material, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

It would have been obvious a matter of design choice to modify the apparatus of Mitchel et al. by having the flexible membrane that includes multiple sheets of material wherein the second sheet material is deposited on the first sheet material by gas phase polymerization coating, since applicant has not disclosed that having the multiple sheets connected at this specific gas phase polymerization coating solves any stated problem or is for any particular purposed and it appears that the flexible membrane that include multiple sheets of material would perform equally well with the multiple sheets connected by any method.

With respect to claims 9,26, Mitchel et al. fail to disclose wherein the second material is deposited on selected portions of the first material to form a pattern.

It would have been an obvious matter of design choice to modify the apparatus of Mitchel et al. with a flexible membrane wherein the second material is deposited on selected portions of the first material to form a pattern or shape was desired or expedient. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kobayashi et al., Lin, and Hu et al. disclose carrier head having flexible membrane respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7.30 to 5.00 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.



AO
November 5, 2003